



ELEVATOR SYSTEM INCLUDING CONTROL PANEL WITHIN HOISTWAY

TECHNICAL FIELD

This invention relates to an elevator system and, in particular, to an elevator system having a control panel within the hoistway.

BACKGROUND ART

In a conventional elevator system, a hoist, a control panel, and the like are installed in a machine room disposed above the hoistway, so that an installation space for the machine room must be maintained at the highest portion of the building, thus decreasing the efficiency of the use of building space and increasing the height of the building.

On the other hand, an elevator system with no machine room has been proposed in which, as shown in Figs. 5 and 6, for example, the hoist and the control panel are installed in an overlapping relationship within a gap defined between the hoistway wall and the travel region of the car, which is a moving member. In the figures, the reference number 1 is a hoistway, 2 is an elevator car, which is a member ascending and descending within the hoistway, 3 is a hoist for driving the car 2 up and down, 4 is a main rope wound on the hoist 3 for supporting the car 2, 5 is a counter weight supported on the main rope 4 at the opposite side of the car 2, 6 is a control panel for driving and controlling the hoist 3, 7 are car guide rails guiding the car 2 moving up and down, 8 are counter weight guide rails guiding the counter weight 5 moving up and down along the hoist way, 9 is a landing floor at which the passengers enter into and exit from the elevator car 2, 10 is a floor door disposed at the landing floor 9, 11 is a car door mounted to the car 2 and opened and closed in connection with the landing floor door 10, and 12 is a door mechanism for supporting the car door 11 and operating with the car door 11 suspended therefrom.

Japanese Patent Laid-open No. 7-10434 (corresponding to European Patent Application EP 0631967) discloses an elevator system in which the hoist and the control panel are mounted at the highest portion of the hoistway and the machine room is eliminated. Japanese Patent Laid-Open No. 7-10437 (corresponding to European Patent Application No. EP 0631968) discloses an elevator system in which the hoist and the control panel are installed at the bottom portion of the hoistway and the machine